Don't let disaster recovery perpetuate [environmental] injustice

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Don't let disaster recovery perpetuate [environmental] injustice

Poor and minority communities already bear the brunt of natural catastrophes — rebuilding efforts must not increase disparities, urges Benjamin Sovacool

The past 40 days have seen two earthquakes in Mexico, three hurricanes striking the Caribbean and southern US, and floods across Bangladesh, India, and Nepal. Rebuilding efforts will take years. If things go as usual, these will leave the worst off relatively worse off and the environment more vulnerable.

Most recovery projects do produce net benefits < http://www.nature.com/news/policy-hurricane-katrina-s-lessons-for-the-world-1.18188]. But many cause social inequity and environmental damage. Efforts to build resilience creates winners (commonly trumpeted) and losers (often ignored). They can also interfere with environmental policies (such as limiting exposure to toxins) or stymie efforts at climate change mitigation (through deforestation, rebuilding with carbon-intensive materials, and greenhouse emissions from diesel generators).

Reconstruction after the Indian Ocean Tsunami in 2004 damaged ecosystems in many ways. Building sites for new houses were selected fast, and without regard for proximity to fragile mangroves or nature reserves. Sand and gravel were extracted from river channels, disrupting natural recovery and increasing erosion and risk of future flood surges.

In the Maldives poor coastal protection measures were implemented after the 2004 Tsunami. The erection of sandbars (made from dredged materials) and seawalls unintentionally reduced the flow of nutrients to coral reefs and weakened a natural bulwark against storm swells and surges

It was a similar story in 2011 in Vermont after Tropical Storm Irene. Gravel dredged from riverbeds to repair roads made these more susceptible to future storms.

Disaster recovery efforts can also cause redistricting or redesign of urban areas in ways that favor the wealthy. The best known example is the 1906 earthquake that ruined much of San Francisco in the United States. Afterwards, city leaders moved Chinatown from its earlier, central location to a more marginal neighborhood.

A century later, in New Zealand, the Canterbury quakes of 2010 and 2011 consolidated national power at the expense of local groups. Here disaster recovery interfered with due process and procedural justice. Community officials and residents were excluded from decision-making processes around the status of their homes when a central government authority was granted power to acquire and dispose of property and suspend laws and regulations. Local elections were delayed for three years.

In Louisiana, Hurricane Katrina recovery enabled private companies to capture public housing. Homes owned or occupied by predominantly poor evacuees were declared a nuisance, marked for demolition, and resold at cutthroat rates. When the federal government allocated billions of dollars to the Army Corps of Engineers to fix, upgrade, and rehabilitate levees and floodwalls, this served only to entrench, rather than eliminate vulnerability among poor communities. To speed repairs after Katrina, environmental and air pollution standards were relaxed: hazardous wastes were not properly stored and open burning was allowed. Cleanup efforts concentrated toxic pollution and debris in particular landfills or alongside communities of color. Sediment left in the wake of floodwaters contained high levels of arsenic, leaving elevated concentrations of arsenic in soils at numerous playgrounds and schools in minority neighborhoods. While some long-term restoration planning is worthy of praise, there is

plenty to criticize. [ok?] The rebuilding of canals and roads further eroded environmental buffers (such as wetlands) critical to future storm surge mitigation.

Disparities exist before disaster strikes; recovery plans that do not account for these inequities can easily widen or further embed them. This is a danger with Hurricane Harvey, which appears to have hit poorer and minority communities hardest. They have borne the lion's share of flooding and related injury, disease and death. Poorer, rural, and minority communities also lived nearest to the Arkema chemical plant in Crosby, Texas, which exploded after the storm due to the failure of backup electricity generators. Similarly, many of the flooded Superfund sites—areas polluted with toxic chemicals and requiring long-term clean up— are located in poor or minority communities.

We can no longer imagine that disaster recovery efforts sufficiently involve, protect, and empower those most in need. They often don't. Plans that "look good on paper" can be extremely problematic.

So what now? One solution is to encourage more community involvement. Promising examples here include community-based afforestation efforts in Bangladesh post Cyclone Sidr, resilience building efforts in Indonesia prioritizing the inclusion and training of women, and the creation of grassroots women's cooperatives to address drought in Kenya.

Managers of recovery efforts should be explicitly charged with identifying community and minority groups and seeking their input. Assessments of the social and environmental impact of recovery must be more dynamic and conducted by panels charged to take complex, existing disparities into account, to collect facts, and report grievances.

We need insurance schemes that spread the risks of disasters **<link to https://www.nature.com/news/insurance-companies-should-collect-a-carbon-levy-1.22589]**. And we need to trial 'environmental bonds' that withhold compensation from projects that damage communities or the environment. Most of all we need to put vulnerable groups and fragile ecosystems front and center in the aftermath of disasters.

If we do not reconceive the ethics and politics of disaster recovery efforts, we will not be able to design more effective, and fair, procedures and projects. The people most affected by disasters never choose to have them occur, but how national and international policymakers act next will be critically important for fair and sustainable communities.

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